UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,357	05/03/2001	Ari Kangras	040000-741	6891

27045 7590 01/27/2005

ERICSSON INC.
6300 LEGACY DRIVE
M/S EVR C11
PLANO, TX 75024

EXAMINER	
TORRES, MARCOS L	

ART UNIT	PAPER NUMBER
2687	

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/847,357	KANGRAS ET AL.	
	Examiner	Art Unit	
	Marcos L Torres	2687	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,11-15 and 17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,15 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7-19-2004 have been fully considered but they are not persuasive.

2. Regarding applicant's arguments, that Mitzlaff does not locate mobile stations, Mitzlaff discloses to calibrate location equipment by locating a mobile station (see col. 2, lines 11-13). Also, Grubeck discloses locating a mobile station (see abstract).

3. Regarding applicant's arguments, that Mitzlaff does not disclose estimating mobile station position using calculated bias error that are determined in conjunction with the position calculation using a plurality of location measurements of a plurality of mobile station, that limitation is thought by the combination of the reference of Mitzlaff and Grubeck as explained in the office action.

4. Regarding applicant's arguments, that Grubeck is applicable only for one mobile and no bias error can be detected by using only one mobile with an unknown position; Grubeck discloses to estimate the position of the mobile, estimate the accuracy to improve the position (see col. 2, line 9 – col. 8, line 15). Therefore, bias error can be detected by using an estimated position.

5. Regarding applicant's arguments, that there is no mention to the limitation "assuming no bias error" in the Grubeck reference, Grubeck discloses estimating position (see col. 2, line 40 – col. 3, line 8), later discloses the bias error (see col. 3, lines 9-31), therefore the initial position measurement estimation have no bias error. The current rejection in record stands.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-3, 11-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitzlaff in view of Grubeck.

As to claim 1, Mitzlaff discloses a method for determining the position of a mobile station within a telecommunications system (see col. 1, lines 7-10), the method comprising the steps of: performing a plurality of measurements associated with a plurality of mobile stations; estimating the position of the plurality of mobile stations based on said plurality of measurements (see col. 2, lines 5-13); creating calibration parameters based on the estimated positions and said plurality of measurements; and refining the estimated positions of the plurality of mobile stations based on the plurality of measurements associated with the mobile stations and said estimated calibration parameters (see col. 2, line 39 – col. 3 line 30; col. 4, lines 7-23, 38-58) Mitzlaff does not specifically discloses assuming no bias in the estimation, deriving a first order approximation of the mobile positions as a function of bias error and estimating the bias error using the first order approximation equation. Grubeck discloses assuming no bias in the estimation since no correction of the measurements is done (see col. 2, line 40 – col. 3, line 8), deriving a first order approximation of the mobile positions as a function of bias error and estimating the bias error using the first order approximation equation (see col. 6, lines 16-42). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine these teachings for an accurate location and enhancing the quality of the communication.

As to claim 2, Mitzlaff discloses the method wherein said pluralities of measurements are time of arrival measurements and calibration parameters are real time difference values (see col. 4,lines 7-23, 38-58; col. 5, line 8 - col. 6, line 7).

As to claim 3, Mitzlaff discloses the method wherein said time of arrival measurements is performed by the mobile station (see col. 4, lines 44-47).

As to claims 11-12, Mitzlaff discloses method of estimating bias errors in parameters used for mobile station positioning and refining the estimated mobile station position (see col. 2, line 39 – col. 3 line 30; col. 4, lines 7-23, 38-58), Mitzlaff do not specifically discloses the method comprising the steps of: estimating the position of a mobile station assuming no biases; deriving a first order approximation of the mobile station position as a function of the bias; estimating the biases using the first order approximation equation; and refining the estimated mobile station position using the bias estimation. Grubeck discloses estimating the position of a mobile station assuming no biases; deriving a first order approximation of the mobile station position as a function of the bias; estimating the biases using the first order approximation equation; and refining the estimated mobile station position using the bias estimation (see col. 6, lines 16-42). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine these teachings for an enhanced precision location system.

Regarding claim 13-15 and 17, they are the corresponding system claims of method claim 1-2, 7 and 11. Therefore, claims 13-15 and 17 are rejected for the same reason shown above.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitzlaff in view of Grubeck as applied to claims 1-3, 11-15 and 17 above, and further in view of Wylie.

11. As to claim 5, Mitzlaff discloses the method wherein said pluralities of measurements are time of arrival measurements (see col. 5, lines 12-15). Mitzlaff do not specifically discloses were the calibration parameters are base station locations. Wylie discloses were the calibration parameters are base station locations (see fig. 5, step 41). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine these teachings in order to have a reliable location information calculation.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitzlaff in view of Grubeck as applied to claims 1-3, 11-15 and 17 above, and further in view of Hall.

As to claim 6, Mitzlaff discloses everything claimed as explained above except for wherein said pluralities of measurements are angle of arrival measurements made by the network and said calibration parameters are angle of arrival biases. Hall discloses wherein said pluralities of measurements are angle of arrival measurements made by the network and said calibration parameters are angle of arrival biases (see col. 2, lines 10-12; col. 4, line 49 – col. 5, line 4). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to use this method to have the ability of determine the location of the mobile station.

13. Claims 4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitzlaff in view of Grubeck as applied to claims 1-3, 11-15 and 17 above, and further in view of Wimbush.

As to claims 7-9, Mitzlaff discloses everything claimed as explained above except for the method wherein said plurality of measurements are signal strength measurements performed by the telecommunications network and said calibration parameters are parameters in a model relating signal strength to location. Wimbush discloses the method wherein said plurality of measurements are signal strength measurements performed by the telecommunications network and said calibration parameters are parameters in a model relating signal strength to location (see col. 4, lines 15-24). Wimbush do not specifically discloses the mobile station performs signal strength measurements. However, since he discloses this method made by the network, one of the ordinary skill in the art will know that no matter where the measurement are taken (base or mobile) the measurements are going to be the same. Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine these teachings for the simple purpose of locating a mobile station.

As to claim 4, Mitzlaff discloses everything claimed as explained above except for the method wherein said time of arrival measurements are performed by the telecommunications network. However, OFFICIAL NOTICE is taken that the method wherein said time of arrival measurements are performed by the telecommunications network is common and well-known method. Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to use time of arrival measurement in the network in order to calculate position information.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcos L Torres whose telephone number is 703-305-1478. The examiner can normally be reached on 8:00am-5:30pm alt. Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G Kincaid can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marcos L Torres
Examiner
Art Unit 2687

SONNY TRINH
PRIMARY EXAMINER

MIt